said second optical element being arranged parallel to said first optical elements, and

said microprisms of said second optical element extending transversely to said microprisms of said first optical element.

REMARKS

Minor corrections have been made to paragraphs **[0024]** and **[0025]** of the specification. Specifically, the reference numeral "17" has been changed to "6"in the ninth line of paragraph and in the third line of paragraph. As can be seen from the fifth and sixth lined of paragraph, the core is identified by reference numeral "16" while the microprisms are identified by the reference numeral "17". Also, it can be seen in paragraph that when the luminaire 10 is turned the other way around, it follows that the other side of the core 16 forms the light entry surface. Thus, no new matter has been added.

Claims 10 and 12 have been amended to more precisely define different aspects of the invention.

Claims 1, 2 and 10-13 have been rejected under 35 U.S.C. §102(e) as anticipated by Ohkawa (U. S. Patent No. 6,334,690). Reconsideration and withdrawal of this rejection is respectfully requested in view of the following comments.

Claim 1 specifies:

> "said reflector being shaped and arranged with reference to said lamp that in substance only light beams reflected at said reflector can exit said emission opening through said optical element."

Thus, in the present invention, almost none of the direct light from the lamp passes through the optical element. Instead, the light which is emitted fromthe optical element is essentially that which is reflected by the reflector.

The significance of this is that the light which is emitted from the optical element has a more uniform distribution over the surface of the element; and bright spots are avoided. As stated in paragraph **[0027]** of the specification:

> "In that no or virtually no light beams are emitted directly from the lamps 11 through the optical element 14, but in substance only light beams 15 reflected at the inner side of the reflector 12 couple into the optical element 14 and then leave this element downwardly, there is achieved a uniform or at least virtually uniform illumination of the entire surface of the optical element 14."

The cited reference to Ohkawa does not show or suggest a light reflector which is so shaped with reference to a lamp that in substance only light beams reflected at the reflector can exit the emission opening through the optical element. Instead, as can clearly be seen in Fig. 2 of Ohkawa, a large portion of the light from the lamps 7 passes directly from the lamps to the incidence end faces 2A of the guide plate 2. In fact, the illustrative light beam L is shown as coming directly from both lamps 7 and as exiting through the emission face 2C. Ohkawa requires the light from the lamps 7 to be reflected repeatedly between the back face 2B and the emission face 2C (col. 3, line 66 to col. 4, line 2). Some of the light is leaked from the back face 2Band this is reflected back into the guide plate. (col. 3, lines 57-60).

The several reflections of light between the faces 2B and 2C and the directing of light into the edges of the guide plate 2 of Ohkawa cause a decrease in the amount of light energy that is eventually emitted. Such multiple reflections are not required in the present invention. Instead, applicants' optical element emits only the light which has been reflected by the reflector. As

pointed out above, this is not shown in Ohkawa.

Also, nothing in Ohkawa suggests the arrangement of an optical element so that substantially all of the light which exits the emission opening has been reflected at the reflector. This is because Ohkawa uses a different way to distribute the emitted light over the surface of the optical element, namely by having the light be reflected repeatedly between the back face 2B and the emission face 2C of the guide plate 2. As pointed out above, this repeated reflection of light decreases the amount of light energy that is finally emitted from the emission face. Further, the Ohkawa technique requires a complicated arrangement of light controlling elements. Applicant's invention on the other hand is simple in construction and it minimizes the number of light reflections and consequent loss of light energy.

In view of the foregoing, it is submitted that claim 1 patentably distinguishes over the patent to Ohkawa and is allowable.

Claims 2-9 are dependent on claim 1 and these claims incorporate the above discussed distinguishing feature of claim 1. Claims 3-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Okhawa in view of Akahane (U. S. Patent No. 5,667,289). It is submitted that Akahane does not supply what is missing form Ohkawa, namely, a reflector which is shaped and arranged such that only light beams reflected at the reflector can exit the emission opening through the optical element. Actually Akahane was cited only as showing the use of white paint on a reflector. Accordingly, claims 2-9 patentably distinguish over both Ohkawa and Akahane considered both individually and in combination. In addition, the specific structures defined by these dependent claims provide additional advantages, as can be appreciated from the specification, as well as additional novelty; and for these reasons also claims 2-9 patentably distinguish over Ohkawa and Akahane and are allowable.

Claim 10 was also rejected under 35 U.S.C. §102(e) as anticipated by Ohkawa. It is submitted that claim 10 as now amended positively distinguishes over Ohkawa. Claim 10 specifies:

> "said optical element having, on a light entry side thereof, a plate-like core of transparent material, and having a light exit side which is occupied with microprisms which are formed by furrows and which taper, starting from roots thereof";

and

> "said microprisms having an elongate structure and extending transversely of said lamp".

The significance of this is that, by providing on the light exit face of the optical element, microprisms which extend in a direction transversely of the lamp, the invention makes it possible to provide even light distribution with a simple optical element.

The patent to Ohkawa does not disclose or suggest an optical element having microprisms formed on a light exit face. Instead, the fine projection rows formed by the slopes 2E and 2F are located on a back face 2B of Ohkawa's guide plate 2; not on a light exit side as claimed by applicant. As a result, Ohkawa requires a separate plate 5 with a prismatic surface having projection rows with slopes 5A and 5B to avoid unevenness of luminance. (col. 5, line 64 to col. 6, line 4). Moreover, the projection rows on Ohkawa's plate 5 extend longitudinally with respect to the lamps 7, not transversely as claimed in applicant's claim 10.

Because Ohkawa fails to provide or suggest the provision of an optical element having a light exit side which is occupied with microprisms having an elongate structure and extending transversely of said lamp as claimed by applicant, and because Ohkawa requires a far more complicated structure to avoid unevenness in luminescence, it is submitted that applicant's claim 10 patentably distinguishes over Ohkawa and is allowable.

The patent to Akahane was not applied to claim 10 and it is agreed that this patent fails to show the above discussed distinguishing features of claim 10.

Claim 11 is dependent on claim 10 and patentably distinguishes over the references for the above reasons.

Claim 12 was also rejected under 35 U.S.C. §102(e) as anticipated by Ohkawa. It is submitted that claim 12, as now amended, positively distinguishes over Ohkawa. Claim 12 specifies:

> "said first optical element having a plate-like core of transparent material which is occupied on a light exit side thereof with microprisms and furrows, said microprisms having roots from which said microprisms taper;

and

> "said microprisms of said second optical element extending transversely to said microprisms of said first optical element.".

The significance of this is that, by providing two optical elements each having microprisms through which light exits, wherein the rows of microprisms of each optical element extend transversely to each other, applicant achieves an even more uniform distribution of emitted light.

As noted above, the patent to Ohkawa does not disclose or suggest an optical element having microprisms formed on a light exit face. Thus claim 12 distinguishes over Ohkawa for the reasons give above in regard to claim 10. Similarly, claim 12 patentably distinguishes over the patent to Akahane for the same reasons as claim 10.

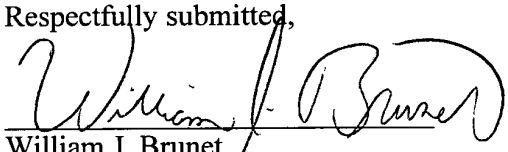
Claim 13 is dependent on claim 12 and patentably distinguishes over the references for the above reasons.

It is submitted that in view of the foregoing, claims 1-13 patentably distinguish over the references and are allowable.

Further consideration by the Examiner and allowance of this application is respectfully requested.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES TO SPECIFICATION

[0024] The optical element 14 arranged in or before the emission opening 13 serves for the deflection of light beams 15 entering thereinto and again emerging therefrom, such that their exit angle is restricted, i.e. is smaller than a predetermined limit exit angle of about 60-70°. For this purpose the optical element 14 has a plate-like core 16 of transparent material, such as for example acrylic glass, which is occupied on one side with microprisms 17 which, with the formation of furrows 18 - starting from their roots - taper, whereby the entirety of the microprism outer surfaces form the light entry surface and the other side of the core [17]16 forms the light exit surface. In the first exemplary embodiment of Figure 3, the microprisms 17 are arranged matrix-like in rows and columns (crossing structure).

[0025] Alternatively, it is also conceivable to install the optical element 12 in the luminaire 10 the other way round. In this case, the entirety of the microprism outer surfaces forms the light exit surface and the other side of the core [17]16 forms the light [exit]entry surface. - -

VERSION WITH MARKINGS TO SHOW CHANGES TO CLAIMS

10. (amended) A luminaire comprising:

an elongated lamp;

an elongate reflector configured to surround said lamp, said reflector having an inner side the inner side facing towards the lamp and being formed to be reflecting, said reflector being formed with an emission opening for emission of light; and

an optical element arranged in or before said emission opening, for deflecting light beams which enter into and exit from said optical element at an exit angle which is smaller than a predetermined exit angle;

said optical element having, on a light entry side thereof, a plate-like core of transparent material, and having a light exit side which[on one side] is occupied with microprisms which are formed by furrows and which taper, starting from roots thereof,

said inner side of said reflector being formed to be mirror-reflecting, and

said microprisms having an elongate structure and extending transversely of said lamp.

12. (amended) A luminaire comprising:

a first optical element arranged to deflect light beams which enter into and exit from said first optical element to exit from said first optical element at an exit angle which is smaller

than a predetermined exit angle,

said first optical element having a plate-like core of transparent material which is occupied on a light exit side thereof[one side] with microprisms and furrows, said microprisms having roots from which said microprisms taper,

said microprisms of said first optical element having an elongate structure;

a second optical element arranged to deflect light beams which enter and exit from said second optical element to exit from said second optical element at an exit angle which is smaller than a predetermined limit exit angle;

said second optical element being of the same construction as said first optical element and being formed with microprisms;

the microprisms of said second optical element likewise having an elongate structure,

said second optical element being arranged parallel to said first optical elements, and

said microprisms of said second optical element extending transversely to said microprisms of said first optical element.